

REMARKS

Claims 1-31 have been examined. By this Amendment, Applicants add new claims 32-60.

As a preliminary matter, Applicants thank the Examiner for the telephonic interview conducted on September 22, 2004.

In response to the election of species requirement in the Office Action of April 8, 2004, Applicants elect Species I, claim 27 for examination. This election is made without traverse.

Applicants reserve the right to file a Divisional Application directed to non-elected claim 28.

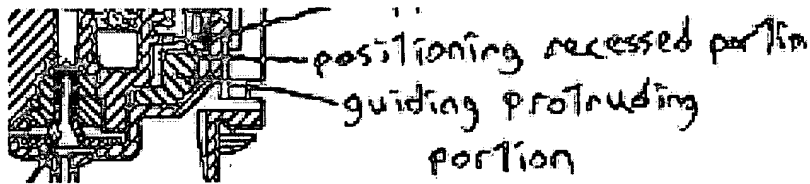
Claims 19-31 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the Examiner states that he cannot identify the plurality of protrusions and the plurality of recesses disposed at a bottom of the ink cartridge. Applicants refer the Examiner to Fig. 15A-15B and lines 6-16 of page 14 which show an exemplary embodiment having a plurality of recesses 38'. Therefore, Applicants submit that claims 19-31 are fully supported in the original disclosure and request the Examiner to withdraw the rejection of claims 19-31 under § 112, second paragraph.

Claims 1-6, 8-26 are rejected under 35 U.S.C. § 102(e) as being anticipated by Seino et al. (U.S. Patent No. 6,361,138; hereinafter "Seino"). Applicants add new claims to more fully claim the invention and submit the following arguments in traversal of the rejections.

Prior to the Applicants' RCE, the Examiner provided a marked up copy of Figs. 3B and 4B of Seino and pointed out what he characterized as being the "positioning recessed portion"

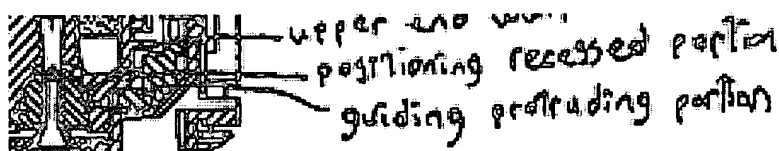
and the “guiding protruding portion.” The relevant portion of Fig. 4B as labeled by the

Examiner is shown here:



See Non-Final Office Action of September 13, 2002, page 3.

In the current Non-Final Office Action, the Examiner provides another marked up copy of Figs. 3B and 4B, and characterizes different portions of the cartridge 2 and the carriage 11 as supposedly disclosing the “positioning recessed portion” and the “guiding protruding portion”:



See Non-Final Office Action of April 8, 2004, page 6.

In response to the Applicants’ arguments, the Examiner argues that:

It should be clear from figure 4B that the drawn in positioning recessed portion and guiding portion form a contact which allows the circuit board 43 to remain in a contacted position with contact 45. If the drawn in portions did not exist, references 43 and 45 would not be positioned correctly. Hence the positioning recessed portion and guiding protruding portion are integral parts of a positioning system, which allows contact between the electrodes of the print cartridge and the print head.

Non-Final Office Action of April 8, 2004, page 12. The Examiner also argues that “it is only the drawn-in positioning recessed portion and guiding portions that provide adequate positioning support should the ink cartridge be reunited with the print head’s ink supply needle so that the circuit board of the reservoir can once again properly contact the contact 45 of the print head.”

See *id.* Applicants respectfully submit that the Examiner is incorrect in his characterization of Seino.

Applicants submit that there is nothing to indicate that the “positioning recessed portion” and the “guiding protruding portion” inherently disclose the claimed positioning system.

To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.

MPEP 2131.01 (III) (emphasis added). In the Office Action, the Examiner essentially contends that the “positioning recessed portion” and the “guiding protruding portion” allow the circuit board 43 to remain in contact with contact 45. The Examiner then engages in circular reasoning by arguing that “[i]f the drawn in portions did not exist, references 43 and 45 would not be positioned correctly.” Applicants submit that there is nothing to indicate that the “positioning recessed portion” and the “guiding protruding portion” would necessarily maintain the circuit board 43 in contact with the contact 45.

Rather, the fitting of the ink supply needle inside the ink supply port 31/41 as shown in Figs. 4A and 4B can provide a viable alternative explanation in explaining how the circuit board 43 remains in contact with contact 45. Therefore, the “guiding protruding portion” and the “positioning recessed portion” of Seino do not necessarily disclose what is recited in claim 1.

Moreover, Applicants submit that the “positioning recessed portion” and the “guiding protruding portion,” of Seino do not maintain the electrodes in contact with respective contacts, as claimed. In Seino, there is nothing to indicate that the positioning recessed portion or the guiding protruding portion would provide a positioning support along the x direction, as shown in Figs. 3B and 4B annotated with coordinate axes, below:

FIG. 3B

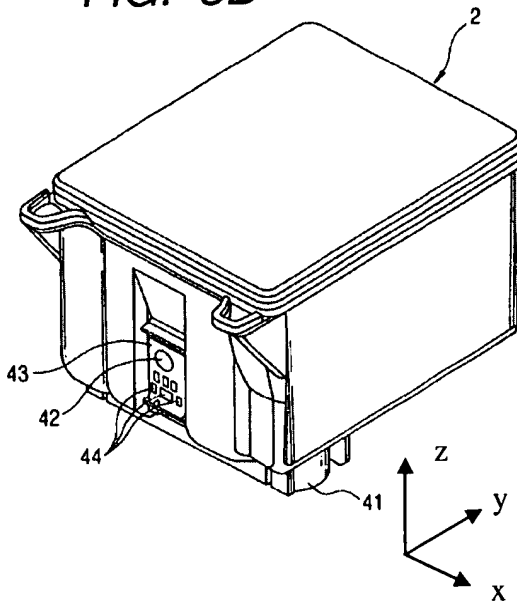
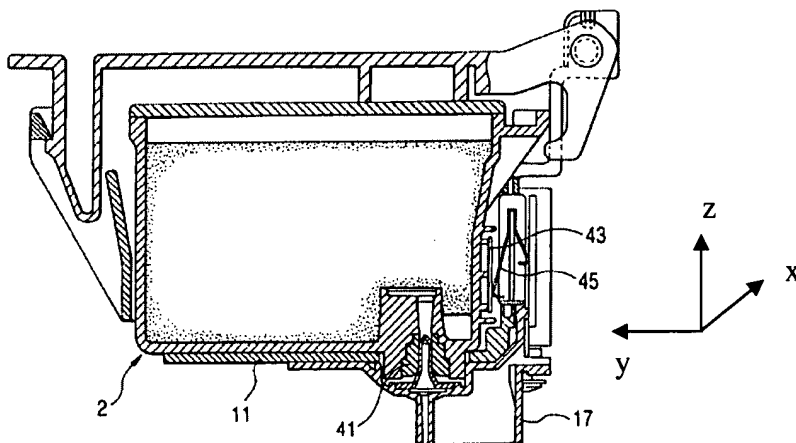


FIG. 4B



Although other parts of cartridge 2 or carriage 11 may provide some sort of alignment of the circuit board 43 and the contacts 45, the “positioning recessed portion” does not have any sidewalls (parallel to the z-y plane) that would provide such alignment.

For the above arguments and the arguments previously submitted, claims 1, 9, 25, and 32 are patentable. For example, Seino fails to disclose:

wherein **a width of the opening** along a direction perpendicular to the insertion direction **is substantially equal to a width of the protrusion** along the direction perpendicular to the insertion direction

(claim 25); and

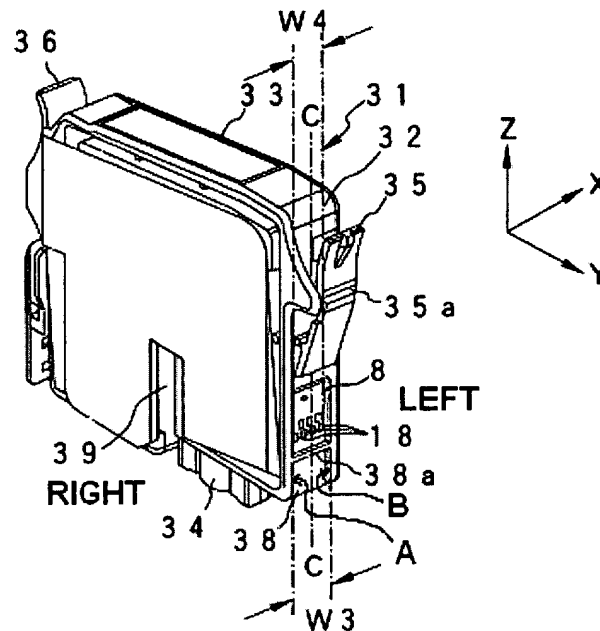
a positioning system located between the ink supply port and the electrodes and adapted to receive a positioning member of said recording apparatus **to maintain the electrodes in contact with respective contacts along at least a carriage moving direction**

(claim 32). Claims which depend from claims 1, 9, 25, and 32 are patentable for at least the reasons submitted above.

Applicants submit new claims 32-60 to more fully claim the invention. Applicants submit that claim 33 is inherently disclosed in the original disclosure because one skilled in the art would easily recognize that each of the electrodes have a third horizontal width along the carriage moving direction that is substantially equal to or greater than a difference between the first horizontal width of the recess and the second horizontal width of the positioning member. One skilled in the art would immediately recognize that without the claimed electrode width, electrical connection between the electrodes and the contacts would not be maintained with the vibrations that occur during printing. *See* Specification, page 12, line 24 - page 13, line 1.

By taking the annotated Figure 10 shown below as an example, when at least the front portion of the cartridge 31 is shifted to the right at a rightmost position, the guiding protruding portion 47 (*see* Fig. 12) becomes in contact with the edge B of the recessed portion 38. Here, the contacts 45 of the recording apparatus are in contact with the electrodes 18 of the cartridge 31.

FIG. 10



Due to vibration or other reasons, if the cartridge 31 is shifted over to the left to a leftmost position, the guiding protruding portion 47 becomes in contact with the edge A of the recess 38. If the total distance the cartridge 31 is shifted over is distance x , then the electrodes 18 of the cartridge 31 would also shift by distance x . To maintain electrical contact between the electrodes 18 and the contacts 45, it is obvious that each of the electrodes 18 would necessarily have a width equal to or greater than the distance x , in this exemplary embodiment.

Further, lines 18-24 of page 12 of the Specification provides an exemplary support for the carriage moving direction recited in claim 32.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

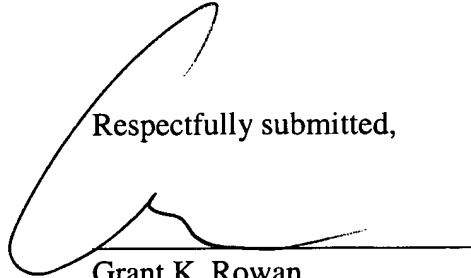
Amendment Under 37 C.F.R. § 1.111
U.S. Appln No. 10/025,821

Atty Dkt No. Q67781

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Grant K. Rowan', is written over a horizontal line.

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